

Spatangidæ.

37. *Maretia planulata*, Lamk.

Zanzibar, 10-20 fath.

38. *Lovenia elongata*, Gray.

Wasin, 10 fath.

39. *Schizaster gibberulus*, Ag.

Wasin, 7 fath.

This is an addition to Prof. Ludwig's list.

XX.—*Rhynchotal Notes*.—XVIII. Heteroptera.

By W. L. DISTANT.

THE following descriptions of new genera and species of Heteroptera are based on specimens recently acquired by the British Museum. They are principally from the Malayan Archipelago, and were all collected by the late Mr. Doherty, except two species from Key Island received through another source.

Order RHYNCHOTA.

Suborder HETEROPTERA.

Family Pentatomidæ.

Subfam. *PLATASPIDINÆ*.*Coptosoma mirabilis*, sp. n.

Luteous; two large central spots at base of head, a large subcruciform fascia on anterior area of pronotum, three longitudinal fasciæ united posteriorly and widened anteriorly on posterior area of pronotum, the lateral pronotal angles, two transverse discal fasciæ, and the lateral and apical margins of scutellum black, shining; the scutellar area between the two discal fasciæ coarsely brownly punctate; sternum slaty grey, margin of prosternum and legs luteous; abdomen black, lateral margins broadly and inwardly dentately luteous; antennæ luteous, apex fuscous. Head short, broad, moderately rounded between the eyes; lateral margins of pronotum emarginate in front of the lateral angles; scutellum without a basal callosity; body broad, widened posteriorly.

Long. 4 millim.

Hab. Halmahera (*Doherty*, Brit. Mus.).

Subfam. *SCUTELLERINÆ*.*Brachyaulax majuscula*, sp. n.

Head and pronotum black ; anterior and posterior margins of anterior pronotal lobe, a discal anterior spot on each side of posterior lobe, and the hind margins of posterior angles pale bluish, a large marginal spot on anterior half of posterior pronotal lobe, equally continued beneath into base of prosternum, sanguineous ; scutellum pale bluish ; basal discal elevation connected medially with a broad submedial fascia which does not reach margins except posteriorly by the aid of a small marginal spot, a subapical fascia reaching margins and centrally sinuated anteriorly and posteriorly, and the apex black ; body beneath and legs black, pilose, lateral areas of sternal and abdominal segments streaked with pale bluish, lateral margins enclosing black stigmal spots and inwardly irregularly dentately sinuate, sanguineous ; rostrum and antennæ black, the last finely pilose.

Long., ♀, $20\frac{1}{2}$ millim. ; exp. pronot. angl. $9\frac{1}{2}$ millim.

Hab. Key Island (Brit. Mus.).

Allied to *B. rufo-maculata*, Stål, which it much resembles above, but differs by its much greater size and by the different colour of the abdomen beneath ; in the last character and size it most agrees with *B. Kükenthali*, Bredd., from which it is at once separated by the characters of the upperside.

Philia Dohertyi, sp. n.

Black ; head, anterior area of pronotum, and basal and subapical areas of scutellum shining cupreous ; lateral and apical margins to head, anterior lateral margins of pronotum, and lateral margins of scutellum pale olivaceous green ; coxæ, trochanters, femora, basal margin of metasternum, first and second joints of rostrum, and very broad lateral margins to abdomen luteous ; head and prosternum pale olivaceous green ; abdomen tinged with cupreous on posterior segmental margins ; antennæ black ; pronotum with a transverse series of coarse punctures posteriorly defining the anterior cupreous area ; scutellum finely punctate, the punctures coarse on anterior lateral margins ; rostrum passing the posterior coxæ ; the broad lateral luteous margins to the abdomen moderately crossed interiorly.

Long. $12\frac{1}{2}$ millim. ; exp. pronot. angl. 7 millim.

Hab. Islands Jobie and Salawati (*Doherty*, Brit. Mus.).

Calliphara lanceolata, sp. n.

Sanguineous ; head, above and beneath, lateral angles and a broad central longitudinal fascia to pronotum, a central basal longitudinal spot and apex of scutellum, connexivum, and basal lateral margin of corium shining olivaceous green ; base of head, the sternum and femora pale ochraceous ; apices of femora, tibiæ, tarsi, and apex of abdomen olivaceous green ; rostrum and antennæ black ; second, third, and fourth joints of antennæ subequal in length ; membrane projecting a little beyond abdominal apex ; rostrum just passing posterior coxæ ; lateral margins of corium exposed for about one-third the length of the scutellum.

Long. 17 millim. ; exp. pronot. angl. $8\frac{1}{2}$ millim.

Hab. Tenimber Island (*Doherty*, Brit. Mus.).

Calliphara rostrata, sp. n.

Sanguineous ; head, pronotum, exposed basal marginal area of hemelytra, a very broad central fascia to scutellum, which is produced and biangulate anteriorly and subtruncate posteriorly, two subapical small central contiguous spots, head beneath, rostrum, antennæ, legs, and apex of abdomen bluish black ; body above sparsely and finely punctate ; abdomen beneath finely centrally sulcate, containing the rostrum, which reaches the base of the apical abdominal segment ; tibiæ sulcated above ; abdomen beneath without lateral punctures.

Length $18\frac{1}{2}$ millim. ; exp. pronot. angl. 9 millim.

Hab. Key Island (Brit. Mus.).

Allied to the group of species represented by *C. Billardieri*, Fabr. ; to be distinguished by the very long rostrum, &c.

Subfam. *PENTATOMINÆ*.

BARACELLUS, gen. nov.

Head longer than broad at base behind eyes, anteriorly concave, the lateral lobes upwardly reflexed, a little longer than central lobe, antennæ five-jointed, first joint passing apex of head, second joint but slightly longer than third ; rostrum just passing the intermediate coxæ ; pronotum with the lateral margins serrate, the posterior angles longly produced and also serrate ; scutellum elongate, subtriangular, the apex prominently narrowed ; corium nearly reaching the apex of the fifth abdominal segment ; abdomen obscurely centrally sulcated, apical angles of the sixth abdominal segment acutely produced ; legs unarmed.

I place this genus near *Coccoteris*.

Baracellus lanceolatus, sp. n.

Head, antennæ, rostrum, and body beneath luteous; head sparingly darkly punctate, eyes black; pronotum olivaceous, sparingly coarsely darkly punctate, posterior lateral margins and a central levigate spot on anterior disk ochraceous, posterior margin reddish ochraceous, lateral angles longly spinously produced, black, their anterior margins ochraceous, apices reddish ochraceous, coarsely granulate, subacute, their margins longly laterally serrate; scutellum pale reddish ochraceous, coarsely darkly punctate, with an olivaceous spot before apex, which is finely punctate; corium olivaceous, coarsely punctate; membrane pale ochraceous, semihyaline, tinged with reddish ochraceous at base, just passing abdominal apex; posterior area of prosternum, posterior margin of metasternum, and spots near coxæ pale olivaceous; legs greenish ochraceous; apex of rostrum piceous.

Long. 27 millim.; exp. pronot. angl. $12\frac{1}{2}$ millim.

Hab. Island of Jobie (*Doherty*).

Family **Lygæidæ**.Subfam. *LYGÆINÆ*.*Melanotelus timorensis*, sp. n.

Dull sanguineous, greyishly pilose; head, antennæ, a subquadrate spot at each lateral angle of the pronotum, anterior margin and two small discal spots to scutellum, membrane, head beneath, rostrum, sternum, legs, and apical segment of abdomen black or piceous; membrane with a broad apical spot and narrow basal margins greyish white; lateral margins of sternum dull sanguineous; head, pronotum, and corium pilose, scutellum glabrous; membrane not quite reaching the abdominal apex; legs rather longly pilose.

Long. 5 millim.

Hab. Timor (*Doherty*).

Subfam. *BLISSINÆ*.*Macropes Humboldti*, sp. n.

Piceous; basal joint of antennæ, apex of head, rostrum, legs, and extreme lateral margins of abdomen reddish ochraceous; corium pale yellowish white, membrane creamy white, the veins dark piceous; head, pronotum, scutellum, abdomen above, and body beneath thickly greyish pilose; a central discal fascia and a narrower subbasal fascia to pronotum

glabrous black; antennæ with the basal joint moderately incrassate, short, but passing apex of head, second joint longer than third, remainder mutilated; anterior femora prominently incrassate, granulate, finely spined beneath.

Long. 8 millim.

Hab. Humboldt Bay (*Doherty*).

Subfam. *COLOBATHRISTINÆ*.

Artemidorus ornatus, sp. n.

Head, pronotum, scutellum, rostrum, and body beneath indigo-black; two large discal elongate spots on posterior pronotal lobe, apex of scutellum, and three large spots on each lateral abdominal margin luteous; corium luteous, coarsely blackly punctate, suffused with piceous about centre and near apex; membrane black, its base obscure luteous; legs ochraceous, apices of the posterior femora and tibiæ black; antennæ mutilated. Pronotum coarsely and sparingly punctate, lateral margins distinctly hirsute and centrally sinuate, transverse impression profound, lobes of about equal length, posterior margin moderately concavely sinuate, lateral angles subnodulose, posterior lobe obscurely centrally carinate; scutellum long, not quite half the length of corium, with a discal carination, its apex subacute; membrane just passing abdominal apex.

Long., ♀, 11 millim.

Hab. Bonthain Peak (*Doherty*).

Artemidorus sobrinus, sp. n.

Above ochraceous, darkly punctate; head, anterior lobe of pronotum (excluding anterior margin), base of scutellum, and body beneath black; femora and tibiæ ochraceous; apex of scutellum, coxæ, trochanters, bases of femora, basal joint of tibiæ, and three spots on each lateral margin of abdomen, of which the central is the smallest, pale luteous; posterior femora (excluding base), intermediate and posterior tibiæ, and apices of the tarsi black or piceous; antennæ brownish ochraceous. In structure much resembling the preceding species, *A. ornatus*, but membrane not reaching the abdominal apex, posterior pronotal lobe distinctly centrally carinate, more coarsely punctate than anterior lobe; scutellum and corium sparingly but profoundly punctate, apices of corium piceous; membrane cupreous, its base piceous, margined with greenish opalescence.

Long., ♀, 8 millim.

Hab. Bali (*Doherty*).

Family Reduviidæ.

Subfam. *EMESINÆ*.*Myiophanes pilipes*, sp. n.

Pale luteous; head, antennæ, posterior lobe of pronotum, meso- and metasterna, basal annulation to abdomen, a central and marginal series of linear spots and apex to abdomen beneath, rostrum, a broad basal and subapical annulation to anterior coxæ, three very broad annulations to anterior femora, anterior tibiæ (excluding bases), dark fuscous; intermediate and posterior legs brownish ochraceous, apices of femora and bases of tibiæ creamy white; anterior legs rather longly pilose; intermediate and posterior legs and abdomen very longly and thickly pilose on each side; antennæ with the first joint about equal in length to intermediate femora and longly pilose on each side, second joint equal to first and much more shortly pilose; hemelytra and wings pale brownish ochraceous.

Long. $17\frac{1}{2}$ millim.; exp. hemelytra 32 millim.

Hab. Australia; Richmond River (Brit. Mus.).

EUGUBINUS, gen. nov.

Elongate, apterous; head globose on disk, anteocular area shorter than postocular, base constricted and somewhat pedunculate at base, eyes large and prominent; rostrum reaching the anterior coxæ, first and second joints incrassated and almost subequal in length, basal joint strongly curved, second joint passing eyes; antenniferous tubercles long, slender; antennæ slender, first joint about as long as head and pronotum together; pronotum with the anterior lobe shorter than the posterior, broadest and truncate anteriorly, attenuated posteriorly but not pedunculate, posterior lobe elongate, margins subparallel; anterior coxæ shorter than anterior tibiæ, which are about one-third shorter than anterior femora, the last finely spined for almost their entire length with a prominent spine near base; posterior femora passing abdominal apex; posterior tibiæ considerably longer than the femora; anterior tarsi short, rigid, two-jointed, basal joint shortest.

This genus belongs to the division *Emesaria*, Stål.

Eugubinus araneus, sp. n.

Pale obscure ochraceous; head (excluding apex) black; pronotum with brownish marks and suffusions; antennæ, legs, and rostrum pale creamy white, somewhat thickly annulated

with brown; intermediate and posterior coxæ, trochanters, and spots to apical segment of abdomen piceous; anterior coxæ and femora each with two broad brown annulations, anterior tibiæ with three annulations, apex of anterior tarsi and the intermediate and posterior tarsi fuscous; rostrum with the second joint annulated with brown; antennæ, intermediate and posterior legs much and closely annulated with brown.

Long. $8\frac{1}{2}$ millim.

Hab. Urun, near Bombay (*Aitken*, Brit. Mus.).

Found living in nest of a spider (*Theridium* sp.).

XXI.—*Note on a Fossil Eel from the Scandinavian Chalk.*

By A. SMITH WOODWARD, LL.D., F.R.S.

THERE is no longer any doubt that well-differentiated eels occur as fossils in the Chalk. Nearly complete skeletons from two formations in the Lebanon * exhibit only one essential difference from a modern generalized eel, namely, the presence of a separate caudal fin, which has subsequently disappeared. Well-preserved remains of the head from the English Chalk † show that the cranial osteology of the Cretaceous fish is identical with that characteristic of the suborder Apodes in the existing fauna.

It is curious that so highly specialized a type of fish as the eel should date back to the Cretaceous period. It is still more remarkable that it should prove to have been widely distributed at that remote time. Continual discoveries, however, seem to indicate that it was an essential element of the later Cretaceous fish-fauna. I have recently examined a new specimen which extends its known range to Scandinavia.

This interesting fossil was obtained from the Danian Chalk of Limhamn, near Malmö, in Southern Sweden, and is now preserved in the Museum of the University of Lund, where Prof. J. Christian Moberg has kindly permitted me to study it. It was originally mentioned by Dames ‡ as possibly belonging to the family Gadidæ, and was subsequently

* *Urenchelys avus* and *U. hakeiensis*, A. S. Woodward, Catal. Foss. Fishes B. M. pt. iv. (1901) pp. 337, 338, pl. xviii. figs. 1-3.

† *Urenchelys anglicus*, A. S. Woodward, Ann. & Mag. Nat. Hist. [7] vol. v. (1900) p. 321, pl. ix. fig. 1.

‡ W. Dames, "Ueber Vogelreste aus dem Saltholmskalk von Limhamn bei Malmö," Bihang k. Svensk. Vet.-Akad. Handl. vol. xvi. sect. iv. no. 1 (1890), p. 3.